



## ENERGY STAR®

# Financing Profile of Success City of Boulder, Colorado

### City of Boulder—Stats at a Glance

Finance Vehicle	Tax-exempt master lease purchase agreement	
Facilities & Asset Manager	Bill Boyes	
Financing	Total amount financed	\$153,011
	Investment per square foot	\$.69/sf
	Financing term	7 years
Cost Savings	Annual positive cash flow	\$2,742
	Simple payback period	5.6 years
	Dollars per year	\$27,420
Energy Savings	Annual energy savings	\$314,506 kWh
Pollution Prevention	Annual CO <sub>2</sub> emissions	371,117 lbs
	Car pollution equivalent	37 cars

**Focus:** This profile showcases how a small to medium size city leveraged its budgets with thir-party financing to accelerate energy upgrades.

### Commitment to Efficiency

The City of Boulder has a strong commitment to energy upgrades and to completing those upgrades as quickly as possible. For example, all projects with a simple payback of 5 years or less are mandatory. The city routinely completes projects with a simple payback of 5 to 10 years. Bill Boyes, Facilities & Asset Manager for the city, oversees building improvements and makes energy upgrades promptly to avoid costs of delay. "We do not like to put off the opportunities to make energy upgrades because for every year they are postponed, that is one less year of profits from energy efficiency," says Boyes. Savings from energy-efficiency projects are rolled over for future energy upgrades.

### Financing Energy Performance Upgrades in the City of Boulder

The city obtains most of the funding it needs for energy efficiency projects from operating budgets and from its 6-year Capital Improvements Plan, designed to upgrade equipment

automatically at the end of its useful life. These varied funding sources enable about \$400,000 in energy improvements each year. The city uses operating budgets to pay for energy efficient equipment purchased through tax-exempt master lease purchase agreements. Boulder's experience demonstrates that using operating budgets allows city managers to generate immediate savings without competing with other departments for capital budget dollars.

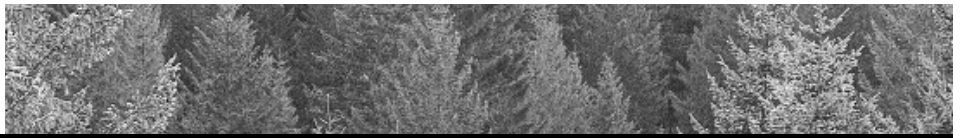
### The Energy Savings are Real: Boulder's Track Record

Since 1991, lighting upgrades have had the greatest impact on the budget—particularly relamping, rebalasting, and installing efficient light-emitting diodes (LEDs) in exit signs and traffic signals. "I know the lighting retrofits are really working because I see the reduction in the energy bills every month," says Boyes. Concerned with the quality of its overall environment, the City of Boulder bundles its lighting upgrades with a creative waste

City of Boulder

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Bill Boyes  
Facilities & Asset  
Manager  
City of Boulder



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management program. It recycles thousands of pounds of fluorescent bulbs and ballasts that it replaces each year, including non-PCB ballasts, and thereby significantly reduces landfill waste.

The city usually manages the lighting upgrades itself and then works with energy services companies (ESCOs) on the more complex projects. To accelerate the installation of priority building-wide energy projects, the City of Boulder entered into a Guaranteed Savings Performance Contract in 1994 with the ESCO Highland Energy Group (now EUA Highland, a subsidiary of EUA Cogenex). One successful example of this collaboration involved a project to convert electric heat and install a hot water boiler system at the Fleet Service Center. The energy part of the savings covered all the improvement and financing costs. In addition, the agreement guaranteed the city a minimum 10-percent reduction in the Fleet Center's utility bills.

#### Creative Financing and Resource Leveraging

To identify cost-effective measures, the city has used free energy audits from ESCOs with the understanding that the city reimburses the audit cost if city officials choose not to go forward with the measures identified. Although the ESCO offered an ongoing verification-of-savings program upon completion of the Fleet Service Center Project, the city project managers chose to verify the savings themselves because of their experience with similar equipment. Their decision left more funds to pay for energy efficiency measures. According to Boyes, the Guaranteed Savings Performance Contract is an effective way to survey the major city facilities quickly and leverage both capital and operating budgets to complete the projects within the city's payback timeframe.

Boyes has also used funding from varied sources to hire specialists. Specifically, he used grant funding to hire a mechanical consultant and operational funds to hire an independent energy engineer. These consultants identified additional energy-saving projects that were not included in the scope of the ESCO's contract.

The city's flexibility on financing has helped make its energy upgrade program a success. The bottom line is stewardship of resources and concern for the environment. "I employ several financing methods and implementation strategies. I select the best combination individually for each project and work with all city departments to lower the overall cost to the taxpayer and the environment," says Boyes.

#### Lessons Learned from the City of Boulder

- By making cost-effective energy upgrades as quickly as possible, the city immediately benefits from improved facilities and pays for the improvements from energy savings.
- City officials found that a Guaranteed Savings Performance Contract is an effective way to survey major facilities quickly and to leverage both capital and operating budgets to complete projects with the highest payback.
- The city funds its energy efficiency projects from operating budgets and from its 6-year Capital Improvements Plan. The operating dollars pay for third-party financing, which in turn stretches the amount of money available for purchasing and installing energy-efficient equipment.

